CLAIMS

What is claimed is:

1. A method of treating bacteremia comprising the step of administering orally to a subject an effective amount of a lactoferrin composition to provide an improvement in the bacteremia of said subject.

2. The method of claim 1, wherein the improvement is attenuating sepsis.

3. The method of claim 1, wherein the improvement is attenuating septic shock.

4. The method of claim 1, wherein the improvement is attenuating organ failure.

5. The method of claim 1, wherein the improvement is a decrease in morbidity of said subject.

6. The method of claim 1, wherein the improvement is a decrease in mortality of said subject.

7. The method of claim 1, wherein said lactoferrin composition is dispersed in a pharmaceutically acceptable carrier.

8. The method of claim 1, wherein said lactoferrin is mammalian lactoferrin.

9. The method of claim 8, wherein said lactoferrin is human or bovine.

10. The method of claim 1, wherein said lactoferrin is recombinant lactoferrin.

11. The method of claim 1, wherein said lactoferrin composition comprises an N-terminal lactoferrin variant.

12. The method of claim 11, wherein the N-terminal lactoferrin variant lacks at least the N-terminal glycine residue.

13. The method of claim 12, wherein said N-terminal lactoferrin variant comprises at least 1% to at least 50% of the lactoferrin composition.

14. The method of claim 1 further comprising administering an antacid in conjunction with said lactoferrin composition.

15. The method of claim 1, wherein the amount of the lactoferrin that is administered is about 1 mg to about 100 g per day.

16. The method of claim 1, wherein the amount of the lactoferrin that is administered is about 10 mg to about 10 g per day.

17. The method of claim 1, wherein said composition that is administered is a liquid formulation.

18. The method of claims 1, wherein said composition that is administered is a solid formulation.

19. The method of claim 1, wherein said composition that is administered is a solid formulation with an enteric coating.

20. The method of claim 1, wherein oral administration is via a nasogastric tube.

21. The method of claim 1 further comprising administering a metal chelator dispersed in a pharmaceutically acceptable carrier.

22. The method of claim 21, wherein the metal chelator is ethylenediaminetetraacetic acid (EDTA) or ethylenebis(oxyethylenenitrilo)] tetraacetic acid (EGTA).

23. The method of claim 22, wherein the amount of EDTA that is administered is about 0.01μg to about 20 g per day.

24. The method of claim 22, wherein the ratio of EDTA to lactoferrin in the composition that is administered is from 1:10,000 to about 2:1.

25. The method of claim 1 further comprising administering the lactoferrin composition in combination with an antibiotic.

26. A method of treating bacteremia or sepsis comprising the step of supplementing the mucosal immune system in a subject by administering via an oral route an effective amount of a lactoferrin composition.

27. A method of enhancing a mucosal immune response in the gastrointestinal tract in a subject comprising the step of administering orally to said subject an effective amount of a lactoferrin composition.

28. The method of claim 27, wherein said lactoferrin stimulates interleukin-18 in the gastrointestinal tract.

29. The method of claim 28, wherein interleukin-18 stimulates the production or activity of immune cells.

30. The method of claim 28, wherein said lactoferrin reduces the production or activity of pro-inflammatory cytokines.

31. A method of decreasing mortality of a subject having bacteremia comprising the step of administering orally to said subject an effective amount of a lactoferrin composition to attenuate the bacteremia to decrease mortality of said subject.

32. A method of treating a septic condition in a subject comprising the step of administering orally to said subject an effective amount of a lactoferrin composition to provide an improvement in the septic condition of said subject.

33. The method of claim 32, wherein the improvement is decreasing the levels of circulating bacteria.

34. The method of claim 32, wherein the improvement is attenuating septic shock.

35. The method of claim 32, wherein the improvement is attenuating organ failure.

36. The method of claim 32, wherein the improvement is a decrease in morbidity of said subject.

37. The method of claim 32, wherein the improvement is a decrease in mortality of said subject.

38. A method of decreasing mortality of a subject having sepsis comprising the step of administering orally to said subject an effective amount of a lactoferrin composition to attenuate sepsis to decrease mortality of said subject.

39. The method of claim 38, wherein the amount of the lactoferrin composition reduces the levels of circulating cytokines.

40. The method of claim 39, wherein the cytokines are selected from the group consisting of IL-4, IL-6 and IL-10.

41. The method of claim 38, further comprising administering the lactoferrin composition in combination with an antibiotic.

42. The method of claim 38, further comprising administering the lactoferrin composition in combination with Drotrecogin alfa (activated).

43. A method of decreasing mortality of a subject having Acute Lung Injury (ALI) or Acute Respiratory Distress Syndrome (ARDS) comprising the step of administering orally to said subject a lactoferrin composition in an effective amount to attenuate ALI or ARDS to decrease mortality of said subject.

44. The method of claim 43 further comprising administering the lactoferrin composition in combination with low tidal volume ventilation or a surfactant.